

ROAD AND BRIDGE CONSTRUCTION in Australia

There are few industries as visible to the man in the street as the road and bridge building industry. We are all too familiar with the need to doggedly submit to the inconvenience – noise, detours, sometimes interminable traffic delays – of major road works that last months or even years, while keeping in mind the spruiked advantages of the new road, bridge or tunnel.

Who in New South Wales could forget the decades-long upgrade to the Great Western Highway in the Blue Mountains, which began in the 1960s with the Springwood bypass and was completed in July 2015 with the widening of the Emu Plains-Katoomba section (see Figure 1)?¹ There are adults of middle age who cannot remember the Highway free of all road works. And yet, it is perversely gratifying to witness improvements and upgrades to the infrastructure of our towns, cities, and the links between them. A subtle rivalry even exists between residents of Sydney and Brisbane as to which city has the more forward-thinking, population-friendly infrastructure (Brisbane the hands-down winner of the ‘Most Bridges’ category).

Crossing the mountains – A Timeline



Figure 1. Completion of the Great Western Highway upgrade <http://www.rms.nsw.gov.au/documents/projects/freight-regional/great-western-highway/great-western-highway-completion.pdf>

The Australian road and bridge construction industry is regarded as 'mature', and yet it is one of the country's most profitable and fast-growing industries. Roads and bridges are not the whole story, however: industry companies construct aerodrome runways, parking lots, pedestrian overpasses, cycle paths, road tunnels, kerbs and guttering. They repair and maintain roads, bridges and tunnels, install road drainage and lighting, and also engage in quarrying of earth, road-base, soil or fill and other construction material.ⁱⁱ

The industry has experienced high revenue volatility in recent years, reflecting the inception, progress and completion of major infrastructural development. State and federal capital expenditure policies and the trend towards privatisation of toll roads both have a knock-on effect on the industry's performance. State public funding of major works still dominates, but private funding is estimated to account for 37.6% (or \$7.6 billion) of the total industry expenditure for 2016-17.ⁱⁱ

The flagship NorthConnex and WestConnex developments in Sydney are expected to bolster industry growth for the next few years, with revenues expected to reach record levels in 2018-9.ⁱⁱ Other infrastructure works on the government's high priority list include the Ipswich Motorway (Queensland), the M80 Ring Road upgrade (Victoria) and the Perth freight link (Western Australia),ⁱⁱⁱ all contributing to a forecast annualised 1.7% growth in revenue (and a total of \$21.9 billion) over the five years to 2021-2.ⁱⁱ

A highly competitive industry

Industry operators include state and territory road authorities and large engineering construction firms. The four main players (Department of Transport NSW, CIMIC Group Ltd, LendLease Group and Roads Corporation) hold 12.4%, 8.7%, 5.3% and 4.0% of market share, respectively, together making up only 30.4% of total market share (industry concentration is regarded as low when the main players of an industry together account for less than 40% of market share).ⁱⁱ

Most of the industry's contracting firms (as many as 91.5% in 2016-7) employ fewer than 20 personnel; 41.0% – often sole proprietor and partners – have no paid employees at all. More than a third of companies generate less than \$200,000 per annum, while at the other end of the scale, one-fifth generate over \$2.0 million per annum in revenue.ⁱⁱ

The nature of competition within the industry varies depending on complexity of the project, how it is funded, and the scale of the contracting firm. The larger-scale operatives tend to compete on tender, where designs and financial proposals are proposed. The process is complex: large projects may be split up into separate phases, each with separate tenders, and potential clients do not always choose contractors on the basis of price, but rather on proven ability to deliver on time, on budget and to specification. Increasingly, state road authorities are inviting 'turnkey', performance-based tenders that include both design and budgets for a project.ⁱⁱ

Smaller-scale contractors typically compete on their capacity to deliver within time and budget limits. They may bid for gazetted tenders or rely on tender invitations by the main contractor or word-of-mouth referrals.ⁱⁱ As more public projects are outsourced to private firms, small contractors will be increasingly reliant on building good relationships with local authorities to win contracts.

Operatives in the site preparation services industry, such as earthmoving firms, pose an external threat to the industry.ⁱⁱ

Critical paths and key drivers

The key drivers in the industry are capital expenditure by the public and private sector, the 10-year bond rate, and the growth in residential construction.ⁱⁱ The public sector capital expenditure includes grants to support road construction and maintenance. The last few years have seen significant government investment in road construction, and the commitment by state government to road transport infrastructure supports an expected increase in public spending during 2016-17. In addition, the last few decades have seen increased private sector spending on public roads, which frees up public money for other priorities, such as maintenance and arterial road extensions.ⁱⁱ

Private investment in road construction projects is forecast to increase with the development of the WestConnex and NorthConnex projects in Sydney (see Table 1).ⁱⁱ Private-public arrangements include BOOT (Build Own Operate

Transfer), where a private developer funds, constructs and operates public infrastructure for a period before transfer of ownership to the government, and PPP (Public Private Partnership), where a public agency and private company contractually agree to share skills, assets, and financial resources to deliver a public facility.

Road and bridge construction funding by sector

Year	Private sector (\$ billion)	(% change)	Public sector (\$ billion)	(% change)
2011-12	5.64	N/C	14.10	N/C
2012-13	5.37	-4.8	14.20	0.7
2013-14	4.45	-17.1	11.77	-17.1
2014-15	4.81	8.1	10.57	-10.2
2015-16*	4.72	-1.9	11.25	6.4
2016-17*	7.57	60.4	12.58	11.8

* Estimate Source: ABS and IBISWorld

Table 1. Road and bridge construction funding by sector (IBISWorld Industry Report E3101 *Road and Bridge Construction in Australia* – October 2016)

The 10-year bond rate reflects long-term interest rates, with low and stable rates potentially boosting the capacity of government and private firms to fund infrastructure projects. An anticipated decline in the 10-year bond yield during 2016-17 is therefore potentially good news for investment in the industry. In contrast, the predicted downturn in dwelling commencements in the same period is likely to have a negative effect on the industry's short-term growth, since residential construction activity (especially of single-unit dwellings) is associated with the construction of roads, footpaths, bridges and driveways.ⁱⁱ

The industry relies on five key buying (demand) industries: toll road operators (needing toll road construction and maintenance); airport operations

(needing runways and carparks); land development and subdivision (needing streets, driveways and pedestrian infrastructure); residential property operators (investing in private roads for new subdivisions); and retail property operators (investing in private road/carpark construction for retail developments).ⁱⁱ

Market segmentation

An estimated 62.4% of the total \$20.1 billion in industry revenue for 2016-17 is made up of publically funded road and bridge construction, the contribution by state road authorities (39.5% or \$7.94 billion) far outweighing that of federal (18.8%; \$3.78 billion) and local governments (4.1%; \$0.83 billion) (Figure 2).ⁱⁱ This public-funded contribution was down on the previous year, as a result of an increase in private funding of some major toll road projects.

Although the federal government's contribution usually holds steady at around 20% of the national market, in the five years through 2016-17 this contribution is expected to fall off as a reflection of increased private funding of large-scale projects.ⁱⁱ

State and territory road authorities are responsible for building and maintaining arterial road networks, and look to PPPs to help ease the burden on their state budgets.ⁱⁱ State road and bridge construction is expected to decline over the next five years, despite the major WestConnex and NorthConnex projects currently underway: most of their funding is through private equity as part of a PPP.

Local governments focus mainly on maintenance and repair work, which is

funded through federal grants or own-sourced revenue (such as property, sales and other taxes^{iv}), while they encourage private funding of land developments like residential subdivisionsⁱⁱ. Local governments' 4.1% revenue contribution for 2016-7 is less than in previous years because of tighter budgetary constraints and greater reliance on own-sourced revenue.

Major market segmentation (2016-17)

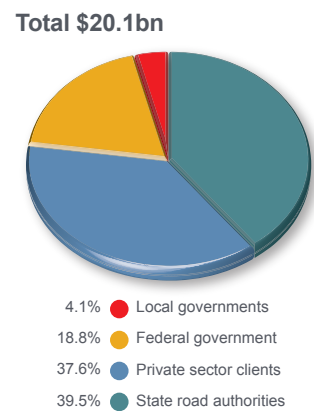


Figure 2. Major market segmentation (2016-17) (IBISWorld Industry Report E3101 *Road and Bridge Construction in Australia* – October 2016)

Onward and upward, but no room for complacency

The road and bridge building industry may be burgeoning, but it is not exempt from the risks and exposures associated with any construction activity. Scale of operation is no protection from mishap, whether that be a delay in project start-up (DSU), equipment failure, site accident, third party property damage, contamination event, or allegation of professional negligence or breach of duty, to name just a few possible scenarios.

The potentially significant costs of project delays, business interruption,

loss of profit, damage to reputation, contamination cleanup or claims investigation and subsequent legal defence could have a crippling effect on any operation. Enterprises involved in the diverse activities in this industry – from building footbridges and roads to airport parking to tunnels – would be well advised to consider comprehensive insurance that protects them against exposures and liability.

A credible insurer for this industry should be able to demonstrate specialist risk engineering knowledge, industry-specific underwriting experience and the ability to craft insurance solutions to suit the particular needs and exposures of individual clients. Claims should be handled by experienced professionals who understand both the product and the client, and who aim to settle claims without undue delay, so that the client can get back to 'business as usual' as soon as possible.

Clients should be able to rely on their broker to recommend insurance products appropriate to their situation; such products may include Construction Risks, Erection Risks and Civil Construction Risks, as well as DSU, Business Interruption, Environmental Impairment Liability, Demolition & Asbestos Removal Liability, General Liability, Professional Liability, and Directors' and Officers' Liability cover.

- i <http://www.rms.nsw.gov.au/projects/freight-regional/great-western-highway/index.html>
- ii IBISWorld Industry Report E3101 *Road and Bridge Construction in Australia* – October 2016
- iii Infrastructure Australia (Australian Government) *Infrastructure Priority List*, 23 November 2016, <http://tinyurl.com/gthbrsn>
- iv <http://www.taxpolicycenter.org/briefing-book/what-are-sources-revenue-local-governments>